

Specific systems protection

ESP TV Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect Cable, Terrestrial and Satellite TV systems. For use on lines running within buildings at boundaries up to LPZ 0 to through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Low attenuation and high return loss over a wide range of frequencies ensures the protectors do not impair system performance

Application

Use to protect analogue and digital Cable, Terrestrial and Satellite TV installations. ESP CATV/F, ESP MATV/F, ESP SMATV/F and ESP TV/F are suitable for systems using F connectors. ESP TV/EURO is suitable for systems using EURO-TV connectors.

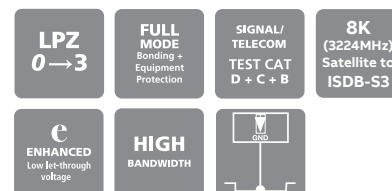
- For protecting terrestrial antenna feeds use ESP TV/F or ESP TV/EURO
- For protecting satellite feeds use ESP SMATV/F

Installation

Connect in series with the coaxial cable either near where it enters or leaves each building or close to equipment being protected.



*NOTE: product label design may vary.



- Substantial earth termination
- Supplied ready for flat mounting
- Strong metal housing
- 8K (3224 MHz) ready to ISDB-S3 satellite digital broadcast standard

- For protecting distributed combined TV feeds use ESP MATV/F
- For protecting cable TV feeds use ESP CATV/F

For further information on TV applications, see separate Application Note AN006 (contact us for a copy).



NOTE: Protectors for coaxial (or twisted pair) CCTV Lines are available. For coaxial RF lines, use the ESP RF Series. Transients can also be conducted TV systems via the mains power supplies - use suitable ESP mains protection.

Electrical specification	ESP CATV/F	ESP MATV/F	ESP SMATV/F	ESP TV/F	ESP TV/EURO
ABB order code	7TCA085400R0122	7TCA085450R0000	7TCA085450R0026	7TCA085450R0028	7TCA085450R0027
Maximum working voltage ⁽¹⁾	140 V	18.9 V	18.9 V	6.4 V	6.4 V
Maximum operating current	4 A	800 mA	800 mA	300 mA	300 mA
Characteristic impedance	75 Ω				
Bandwidth	5-860 MHz	5-3224 MHz	860-3224 MHz	5-860 MHz	5-860 MHz
Insertion loss:					
– 5-860 MHz	< 0.5 dB	< 0.3 dB	–	< 0.3 dB	< 0.3 dB
– 860-2150 MHz	–	< 1.5 dB	< 1.5 dB	–	–
– 2150-3224 MHz	–	< 2.2 dB	< 2.2 dB	–	–
Return loss (VSWR):					
– 5-860 MHz	> 20 dB (< 1.2:1)	> 32 dB (< 1.05:1)	–	> 32 dB (< 1.05:1)	> 32 dB (< 1.05:1)
– 860-2150 MHz	–	> 20 dB (< 1.2:1)	> 20 dB (< 1.2:1)	–	–
– 2150-3224 MHz	–	< 2.2 dB	< 2.2 dB	–	–

Transient specification	ESP CATV/F	ESP MATV/F	ESP SMATV/F	ESP TV/F	ESP TV/EURO
Let-through voltage (all conductors)⁽²⁾ U_p					
C2 test 4 kV 1.2/50 μs, 2 kA 8/20 μs to BS EN/EN/IEC 61643-21	270 V	70 V	70 V	65 V	65 V
C1 test 1 kV 1.2/50 μs, 0.5 kA 8/20 μs to BS EN/EN/IEC 61643-21	265 V	60 V	60 V	50 V	50 V
B2 test 4 kV 10/700 μs to BS EN/EN/IEC 61643-21	245 V	45 V	45 V	30 V	30 V
5 kV, 10/700 μs ⁽³⁾	250 V	50 V	50 V	35 V	35 V
Maximum surge current					
8/20 μs to ITU-T K.45:2003, IEEE C62.41.2:2002	3 kA				
D1 test 10/350 μs to BS EN/EN/IEC 61643-21	500 A	750 A	750 A	750 A	750 A

Mechanical specification	ESP CATV/F	ESP MATV/F	ESP SMATV/F	ESP TV/F	ESP TV/EURO
Temperature range	-40 to +80 °C				
Connection type	F female				Euro-TV
Earth connection	~ 9.5 mm (3/8") diameter earth stud				
Case Material	Diecast				
Weight	0.14 kg				
Dimensions	See diagram below				

⁽¹⁾ Maximum working voltage (DC or AC peak) measured at < 5 μA (ESP CATV/F) and < 50 mA (ESP MATV/F, ESP SMATV/F, ESP TV/EURO, ESP TV/F).

⁽²⁾ The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth. Response time < 10 ns.

⁽³⁾ Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68).

